Forest Insect & Disease Management

Survey Report

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SPRUCE BUDWORM AERIAL SURVEY
HIAWATHA NATIONAL FOREST, MICHIGAN 1975

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INTRODUCTION

The spruce budworm, Choristoneura fumiferana (Clem.), was reported by Hiawatha Forest personnel to be causing severe defoliation and fir mortality on the southern half of the eastern unit. Since no aerial survey for spruce budworm defoliation had been flown on the Hiawatha National Forest since 1971, the current status of defoliation was unknown. A survey was made to determine the location, acreage, and severity of spruce budworm population.

METHOD

In July 1975, planned lines were flown between 0930 and 1400, at 1,500 feet above ground at 110 mi/h air speed. Bob Booker, Forest Pest Specialist, Hiawatha National Forest, with Larry Mellstrom TMA, St. Ignace R. D. assisting on the eastern unit of the Hiawatha N. F. and I sketch-mapped the boundaries of currently defoliated white spruce and balsam fir stands on ¼-inch-to-the-mile Forest maps. The following codes were used to designate severity of defoliation and stand condition:

Defoliation	Stand Condition
L - Light to Moderate, 0-50% of crown showing reddish-brown discoloration.	No tree mortality or top kill.
H - Heavy, 51-100% of crown showing reddish-brown discoloration.	No tree mortality or top kill.
S - Severe, 51-100% of crown showing reddish-brown and grey discoloration.	Tree mortality and top kill.

Ground checks were conducted to verify causal agent, location and severity of defoliated areas.

RESULTS

Light to severe defoliation was observed throughout the eastern unit of the Hiawatha N. F. with extensive top kill and tree mortality on the St. Ignace R. D. (map). The Sault Ste. Marie R. D. has light to heavy defoliation in scattered spots but no tree mortality or top kill.

The gross acres defoliated on the east unit of the Hiawatha N. F. by class are:

Defoliation Class	Gross Acres
Light to Moderate	1,400
Heavy	17,280
Severe	52,000
TOTAL	70,680

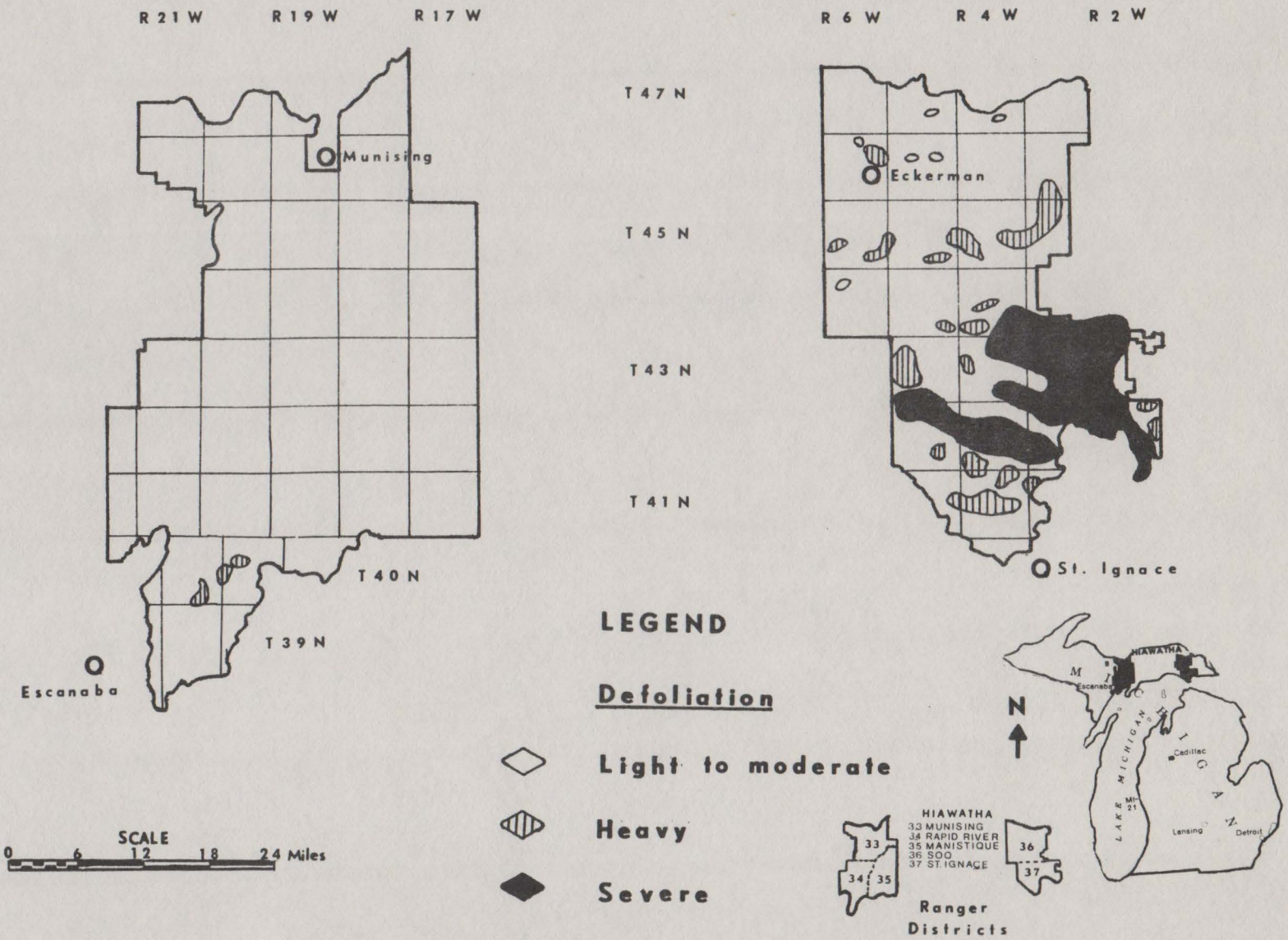
The Rapid River R. D. on the west unit of the Forest has a few small areas of heavy defoliation with no mortality or top kill (map). Gross acres defoliated on the west unit of the Hiawatha N. F. by class are:

Defoliation Class	Gross Acres
Light to Moderate	0
Heavy	960
Severe	0
TOTAL	960

CONCLUSIONS

Tree mortality and top kill on the St. Ignace R. D. indicate budworm has been active for several years. Budworm populations are moving northward to the Sault Ste. Marie R. D. causing heavy defoliation.

HIAWATHA NATIONAL FOREST, MICHIGAN



Spruce Budworm Defoliation Detected During the 1975 Aerial Survey on the Hiawatha National Forest, Michigan.